

DATA VERIFICATION OF THE OU-4B AND OU-5 SOIL INVESTIGATION
METEORIC WATER MOBILITY PROCEDURE (MWMP) SAMPLES
COLLECTED AT THE ANACONDA COPPER MINE SITE IN YERINGTON, NEVADA
ON JANUARY 6, 7, AND 8, 2020

Laboratory: ACZ Laboratories, Inc.

Samples:

Field Sample Identification	Date Sample Collected	SDG	Parameters Examined
STSB19_0.5-3	1/6/2020	L56874	M ¹ , M ² , Hg, CN, Cl, F, SO ₄ , N, TKN, ALK, TDS, ²²⁶ Ra, ²²⁸ Ra
STSB19_6-15	1/6/2020	L56874	M ¹ , M ² , Hg, CN, Cl, F, SO ₄ , N, TKN, ALK, TDS, ²²⁶ Ra, ²²⁸ Ra
STSB18_0.5-3	1/7/2020	L56874	M ¹ , M ² , Hg, CN, Cl, F, SO ₄ , N, TKN, ALK, TDS, ²²⁶ Ra, ²²⁸ Ra
STSB18_6-15	1/7/2020	L56874	M ¹ , M ² , Hg, CN, Cl, F, SO ₄ , N, TKN, ALK, TDS, ²²⁶ Ra, ²²⁸ Ra
STSB18-FD_6-15 (Field Duplicate of STSB18_6-15)	1/7/2020	L56874	M ¹ , M ² , Hg, CN, Cl, F, SO ₄ , N, TKN, ALK, TDS, ²²⁶ Ra, ²²⁸ Ra
STSB16_0.5-3	1/7/2020	L56874	M ¹ , M ² , Hg, CN, Cl, F, SO ₄ , N, TKN, ALK, TDS, ²²⁶ Ra, ²²⁸ Ra
STSB16_6-15	1/7/2020	L56874	M ¹ , M ² , Hg, CN, Cl, F, SO ₄ , N, TKN, ALK, TDS, ²²⁶ Ra, ²²⁸ Ra
STSB15_0.5-3	1/7/2020	L56874	M ¹ , M ² , Hg, CN, Cl, F, SO ₄ , N, TKN, ALK, TDS, ²²⁶ Ra, ²²⁸ Ra
STSB15_6-15	1/7/2020	L56874	M ¹ , M ² , Hg, CN, Cl, F, SO ₄ , N, TKN, ALK, TDS, ²²⁶ Ra, ²²⁸ Ra
STSB14_0.5-3	1/7/2020	L56874	M ¹ , M ² , Hg, CN, Cl, F, SO ₄ , N, TKN, ALK, TDS, ²²⁶ Ra, ²²⁸ Ra
STSB14_6-15	1/7/2020	L56874	M ¹ , M ² , Hg, CN, Cl, F, SO ₄ , N, TKN, ALK, TDS, ²²⁶ Ra, ²²⁸ Ra
STSB13_0.5-3	1/7/2020	L56874	M ¹ , M ² , Hg, CN, Cl, F, SO ₄ , N, TKN, ALK, TDS, ²²⁶ Ra, ²²⁸ Ra
STSB13_6-15	1/7/2020	L56874	M ¹ , M ² , Hg, CN, Cl, F, SO ₄ , N, TKN, ALK, TDS, ²²⁶ Ra, ²²⁸ Ra
STSB12_0.5-3	1/8/2020	L56874	M ¹ , M ² , Hg, CN, Cl, F, SO ₄ , N, TKN, ALK, TDS, ²²⁶ Ra, ²²⁸ Ra

Field Sample Identification	Date Sample Collected	SDG	Parameters Examined
STSB12_6-15	1/8/2020	L56874	M ¹ , M ² , Hg, CN, Cl, F, SO ₄ , N, TKN, ALK, TDS, ²²⁶ Ra, ²²⁸ Ra
STSB12-FD_6-15 (Field Duplicate of STSB12_6-15)	1/8/2020	L56874	M ¹ , M ² , Hg, CN, Cl, F, SO ₄ , N, TKN, ALK, TDS, ²²⁶ Ra, ²²⁸ Ra
STSB10_0.5-3	1/8/2020	L56874	M ¹ , M ² , Hg, CN, Cl, F, SO ₄ , N, TKN, ALK, TDS, ²²⁶ Ra, ²²⁸ Ra
STSB10_6-15	1/8/2020	L56874	M ¹ , M ² , Hg, CN, Cl, F, SO ₄ , N, TKN, ALK, TDS, ²²⁶ Ra, ²²⁸ Ra
STSB09_0.5-3	1/8/2020	L56874	M ¹ , M ² , Hg, CN, Cl, F, SO ₄ , N, TKN, ALK, TDS, ²²⁶ Ra, ²²⁸ Ra
STSB09_6-15	1/8/2020	L56874	M ¹ , M ² , Hg, CN, Cl, F, SO ₄ , N, TKN, ALK, TDS, ²²⁶ Ra, ²²⁸ Ra

Parameters & Methods:

- M¹ - ICP Metals (specifically, aluminum, barium, boron, calcium, iron, lithium, magnesium, phosphorus, potassium, sodium, strontium, tin, and titanium) by SW-846 Method 6010D.
- M² - ICP/MS Metals (specifically, antimony, arsenic, beryllium, cadmium, chromium, cobalt, copper, lead, manganese, molybdenum, nickel, selenium, silver, thallium, thorium, uranium, vanadium, and zinc) by SW-846 Method 6020B.
- Hg - Mercury by SW-846 Method 7470.
- CN - Cyanide, Weak Acid Dissociable (WAD) by Standard Method 4500-CN I.
- Cl - Chloride by Standard Method 4500-Cl E.
- F - Fluoride by Standard Method 4500-F C.
- SO₄ - Sulfate by ASTM Method D516-07.
- N - Nitrate Nitrogen, Nitrite Nitrogen, and Nitrate/Nitrite Nitrogen by US EPA Method 353.2.
- TKN - Total Kjeldahl Nitrogen by US EPA Method 351.2.
- ALK - Total Alkalinity, Bicarbonate Alkalinity, Carbonate Alkalinity, and Hydroxide Alkalinity as CaCO₃ by Standard Method 2320B.
- TDS - Total Dissolved Solids by Standard Method 2540C.
- ²²⁶Ra - Radium-226 by US EPA Method 903.1 (modified).
- ²²⁸Ra - Radium-228 by SW-846 Method 9320.

Items Reviewed
Holding Times
Chain-of-Custody and Case Narrative
Blank Results
MS/MSD Results
LCS Results
Laboratory and Field Duplicate Results
Chemical Yield

Qualifier Summary

Analyte(s)	SDG(s)	Sample(s)	Validation Qualifier(s)	Reason(s) for Qualification
nitrite nitrogen, nitrate nitrogen, and nitrate/nitrite nitrogen	L56874	STSB19_0.5-3, STSB19_6-15, STSB18_0.5-3, STSB18_6-15, STSB18-FD_6-15, STSB16_0.5-3, STSB12-FD_6-15, STSB10_0.5-3, STSB10_6-15, STSB09_0.5-3, and STSB09_6-15	J/UR	1 – Grossly exceeded holding time
total dissolved solids	L56874	STSB15_6-15	J	1 – Exceeded holding time
barium	L56874	STSB13_0.5-3, STSB13_6-15, and STSB12_6-15	UJ	2 – Method blank contamination
boron	L56874	All samples, except STSB16_6-15	UJ	2 – Method blank contamination
chloride	L56874	STSB18_0.5-3	UJ	2 – Method blank contamination
chromium	L56874	STSB16_6-15 and STSB13_0.5-3	UJ	2 – Method blank contamination
copper	L56874	STSB19_6-15 and STSB13_6-15	UJ	2 – Method blank contamination
lead	L56874	STSB15_0.5-3, STSB15_6-15, and STSB12_0.5-3	UJ	2 – Method blank contamination
radium-226	L56874	STSB16_6-15, STSB15_0.5-3, STSB15_6-15, STSB14_0.5-3, STSB14_6-15, STSB13_0.5-3, STSB13_6-15, STSB12_0.5-3, STSB10_0.5-3, and STSB09_0.5-3	UJ	2 – Method blank contamination

Analyte(s)	SDG(s)	Sample(s)	Validation Qualifier(s)	Reason(s) for Qualification
barium, boron, iron, lithium, potassium, sodium, strontium, titanium	L56874	STSB15_0.5-3, STSB14_0.5-3, STSB13_0.5-3, STSB13_6-15, STSB12_0.5-3, and STSB12_6-15	J/UJ	4L – Low MS/MSD recoveries
beryllium	L56874	STSB12-FD_6-15, STSB10_6-15, and STSB09_0.5-3	J/UJ	4L – Low MS/MSD recoveries
magnesium	L56874	STSB13_0.5-3, STSB13_6-15, STSB12_0.5-3, and STSB12_6-15	J	4L – Low MS/MSD recoveries
tin and WAD cyanide	L56874	STSB16_6-15, STSB15_0.5-3, STSB15_6-15, STSB14_0.5-3, STSB14_6-15, STSB13_0.5-3, STSB13_6-15, STSB12_0.5-3, and STSB12_6-15	UJ	4L – Low MS recovery
phosphorus	L56874	STSB15_0.5-3, STSB14_0.5-3, STSB13_6-15, STSB12_0.5-3, STSB12_6-15, STSB12-FD_6-15, STSB10_0.5-3, STSB10_6-15, STSB09_0.5-3, and STSB09_6-15	J/UJ	4L – Low MS/MSD recoveries
iron and potassium	L56874	STSB12-FD_6-15, STSB10_0.5-3, STSB10_6-15, STSB09_0.5-3, and STSB09_6-15	J/UJ	D – Laboratory duplicate imprecision
lithium	L56874	STSB18_6-15 and STSB18-FD_6-15	J	8 – Field duplicate imprecision
radium-228	L56874	STSB12_6-15 and STSB12-FD_6-15	J/UJ	8 – Field duplicate imprecision
fluoride	L56874	STSB19_6-15, STSB18_6-15, STSB18-FD_6-15, STSB16_6-15, STSB13_6-15, STSB10_6-15, and STSB09_6-15	J	9 – Result may be impacted from method blank contamination
chromium	L56874	STSB15_6-15	J	9 – Result may be impacted from method blank contamination
copper	L56874	STSB10_6-15	J	9 – Result may be impacted from method blank contamination
sodium	L56874	STSB16_6-15 and STSB15_6-15	J	9 – Result may be impacted from method blank contamination

Quantitation of Results: Based on standard project reporting requirements, all positive results reported at concentrations greater than the method detection limit but less than the reporting limit were qualified as estimated and have been flagged "J" on the data tables. (Valid Reason Code: T)

Based on standard project reporting requirements, all radium-226 and radium-228 results reported at concentrations less than the method detection limit were qualified as "not-detected" and have been flagged "U" on the data tables. (Valid Reason Code: 9)

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